In the Claims

Please substitute the following claims:

1. A construct for post-transcriptional control of expression of a gene encoding a protein, wherein said construct comprises a polynucleotide encoding said protein and a polynucleotide encoding a carbohydrate responsive mRNA instability element, wherein post-transcriptional stability of said carbohydrate responsive mRNA instability element is controlled by said carbohydrate or an analogue thereof.

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- 2. The construct of claim 1, wherein said polynucleotide encoding said carbohydrate responsive mRNA instability element comprises the nucleotide sequence of SEQ ID NO. 9.
- 3. The construct of claim 1, wherein said carbohydrate comprises glucose, 3-O-methylglucose, 2-deoxyglucose, or a combination of any of the foregoing.
 - 4. The construct of claim 1, wherein said construct is a plasmid.
 - 5. The construct of claim 1, wherein said construct is a virus.

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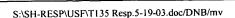
- 6. The construct of claim 1, wherein said construct is a retrovirus.
- 7. The construct of claim 1, wherein said construct is a naked DNA sequence.
- 19. A method of screening for mutations of a carbohydrate responsive mRNA instability element, said method comprising:
 - obtaining a DNA sample from a subject potentially having a mutation of the carbohydrate responsive mRNA instability element;

sequencing said DNA sample; and detecting mutations within the carbohydrate responsive instability element.

- 20. A recombinant cell comprising a construct, wherein said construct comprises a polynucleotide encoding a protein and a polynucleotide encoding a carbohydrate responsive mRNA instability element, wherein post-transcriptional stability of said carbohydrate responsive mRNA instability element is controlled by said carbohydrate or an analogue thereof.
- 21. A primer comprising a nucleic acid sequence capable of recognizing and binding a nucleotide sequence encoding a carbohydrate responsive mRNA instability element.
- 22. A kit for detecting a carbohydrate responsive mRNA instability element, said kit comprising multiple separate containers wherein each of said separate containers comprise:

a set of primers for PCR detection of a polynucleotide encoding the carbohydrate responsive mRNA instability element, and optionally a positive control comprising said

- polynucleotide encoding the carbohydrate responsive mRNA instability element.
 - 23. A nucleic acid probe comprising a DNA sequence having affinity for a polynucleotide encoding a carbohydrate responsive mRNA instability element.
 - 24. A host cell comprising a construct, wherein said construct comprises a polynucleotide encoding a protein and a polynucleotide encoding a carbohydrate responsive mRNA instability element, wherein post-transcriptional stability of said carbohydrate responsive mRNA instability element is controlled by said carbohydrate or an analogue thereof.
 - 25. A replicable vector comprising a construct, wherein said construct comprises a polynucleotide encoding a protein and a polynucleotide encoding a carbohydrate responsive mRNA instability element, wherein post-transcriptional stability of said carbohydrate responsive mRNA instability element is controlled by said carbohydrate or an analogue thereof.



Please add the following new claims:

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- 26. The construct of claim 1, wherein said protein comprises β -globin.
- 27. The recombinant cell of claim 20, wherein said protein comprises β -globin.
- 28. The host cell of claim 24, wherein said protein comprises β -globin.
- 29. The replicable vector of claim 25, wherein said protein comprises β -globin.
- 30. A construct for post-transcriptional control of expression of a gene encoding a protein, wherein said construct comprises a polynucleotide encoding said protein and a polynucleotide encoding a carbohydrate responsive mRNA instability element, wherein said polynucleotide encoding said carbohydrate responsive mRNA instability element comprises the nucleotide sequence of SEQ ID NO:9, and wherein post-transcriptional stability of said carbohydrate responsive mRNA instability element is controlled by said carbohydrate or an analogue thereof.
- 31. The construct of claim 30, wherein said carbohydrate comprises glucose, 3-O-methylglucose, 2-deoxyglucose, or a combination of any of the foregoing.
 - 32. The construct of claim 30, wherein said carbohydrate comprises glucose.
 - 33. The construct of claim 30, wherein said construct is a plasmid.
 - 34. The construct of claim 30, wherein said construct is a virus.
 - 35. The construct of claim 30, wherein said construct is a retrovirus.

- 36. The construct of claim 30, wherein said construct is a naked DNA sequence.
- 37. The construct of claim 30, wherein said protein comprises β -globin.
- 38. A method of screening for mutations of a carbohydrate responsive mRNA instability element, said method comprising:

obtaining a DNA sample from a subject, wherein said DNA sample comprises the nucleotide sequence of SEQ ID NO:9 or a mutation of said nucleotide sequence;

sequencing said DNA sample; and detecting mutations within said nucleotide sequence.

39. A primer comprising a nucleic acid sequence capable of recognizing and binding the sequence of SEQ ID NO:9.

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40. A kit for detecting a carbohydrate responsive mRNA instability element, said kit comprising multiple separate containers wherein each of said separate containers comprise:

a set of primers for PCR detection of a polynucleotide sequence encoding the carbohydrate responsive mRNA instability element, wherein said polynucleotide sequence comprises SEQ ID NO:9; and optionally a positive control comprising said polynucleotide sequence of SEQ ID NO:9.

- 41. A nucleic acid probe comprising a DNA sequence having affinity for the polynucleotide sequence of SEQ ID NO:9.
- 42. A host cell comprising a construct, wherein said construct comprises a polynucleotide encoding a protein and a polynucleotide encoding a carbohydrate responsive mRNA instability element, wherein said polynucleotide encoding said carbohydrate responsive mRNA instability element comprises the nucleotide sequence of SEQ ID NO:9, and wherein post-transcriptional stability of said carbohydrate responsive mRNA instability element is controlled by said carbohydrate or an analogue thereof.

- 43. The host cell of claim 42, wherein said protein comprises β -globin.
- 44. A replicable vector comprising a construct, wherein said construct comprises a polynucleotide encoding a protein and a polynucleotide encoding a carbohydrate responsive mRNA instability element, wherein said polynucleotide encoding said carbohydrate responsive mRNA instability element comprises the sequence of SEQ ID NO:9, and wherein post-transcriptional stability of said carbohydrate responsive mRNA instability element is controlled by said carbohydrate or an analogue thereof.
 - 45. The replicable vector of claim 44, wherein said protein comprises β -globin.
- 46. A recombinant cell comprising a construct, wherein said construct comprises a polynucleotide encoding a protein and a polynucleotide encoding a carbohydrate responsive mRNA instability element, wherein said polynucleotide encoding said carbohydrate responsive mRNA instability element comprises the nucleotide sequence of SEQ ID NO:9, and wherein post-transcriptional stability of said carbohydrate responsive mRNA instability element is controlled by said carbohydrate or an analogue thereof.
 - 47. The recombinant cell of claim 46, wherein said protein comprises β -globin.